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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BLANK ROME LLP
600 NEW HAMPSHIRE AVENUE, N.W.
WASHINGTON, DC 20037

EXAMINER

LAMBELET, LAWRENCE EMILE

ART UNIT PAPER NUMBER

1732

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,808

Applicant(s)

MIAZGA ET AL.

Examiner

Lawrence Lambelet

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2006.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. ¶ 1, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45, 47-48 and 50-64 is/are pending in the application.
4a) Of the above claim(s) 1-38 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 39-45, 47-48 and 50-64 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election of Group III, claims 39-50, in the reply filed on 8/23/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected Groups I and II inventions, there being no allowable generic or linking claim.

Response to Amendment

Applicant's amendment filed on 8/23/2006 is acknowledged. Cancelled claims 46 and 49, amended claims 42, 43, 47 and 50, and new claims 51-64 are entered on the record. Claims 39-45, 47-48, and 50-64 will be examined in this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 58 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See

MPEP § 2172.01. The omitted structural cooperative relationships are: The second link as related to the first link, or to any of the claimed structure. For the purpose of examination, the third and fourth portions of the second link will be interpreted as third and fourth portions of the first link.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 39-40, 42, 48, 53, and 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Martineau (U.S. Patent 4,174,245).

Martineau discloses a method of forming a flexible fuel tank (flexible carrier) reading on claims 39-40, and 48. Martineau teaches forming one portion of a half shell of the tank with a turned-up periphery (channel) by injecting an elastomer material in a first mold configuration comprising a core and a first stamp. See lines 17-25 in column 2. Martineau further teaches positioning a rubber cord (flexible member) in the periphery depression after partially curing the elastomer. See lines 32-35 in column 2. Martineau still further teaches increasing the cavity space by replacing the first stamp with a second stamp resulting in a second mold configuration and molding the second portion of the half shell with the cord embedded. This is followed by a complete

vulcanizing step. A bond is created by the uncured elastomer in both halves. See lines 35-49 in column 2 and Fig's 3 and 4a.

Martineau teaches embedding a rubber cord, which is an elongate deformable member, as required by claims 42 and 48. See lines 32-35 in column 2. The fuel tank inherently having corners, and the cord tracing the periphery, it follows that the cord necessarily would be bent at the corners while maintaining the shape thus deformed.

Martineau teaches a lip positioned toward the opening of the channel to retain the rubber cord, as required by claim 53. See reference character 6 in Fig. 3.

Martineau teaches that the upturned periphery is formed in a U-shape, and that the rubber cord has a conforming shape, as required by claim 63. See Fig. 4a.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 41 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martineau.

Martineau teaches the method of claims 39-40, 42, 48, 53, and 63 in a first embodiment, as discussed above

Martineau does not teach, in the first embodiment, a second cross-sectional shape that is smaller than a first cross-sectional shape, as required by claim 41.

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Martineau further does not teach compression as applied by a second mold part of a second mold assembly, as required by claims 41 and 51.

Martineau does teach, in a second embodiment, two mold assemblies enabling compression during filling of a channel by change in configuration, such that the cross-sectional shape of the second assembly is less than that of the first assembly. See Fig's 8 and 9 and lines 15-30 in column 3. The first mold assembly includes mold parts 12 and 13 (reference character not shown) and the second mold assembly includes mold parts 12, 13 and a part described as "a joining vise" (see Fig. 10). It is apparent from the figures that a compressive force would be applied by the closing of the joining vise and that the cross-sectional area of the cavity would be reduced upon seating. The channel in this embodiment is identified by reference character 16.

One of ordinary skill in the art at the time of the invention would have found it obvious to combine the two embodiments as taught by Martineau. The motivation to do so would have been to supply pressure by simpler means than a relatively expensive injection system.

Claims 43 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martineau as applied to claims 39-40, 42, 48, 53, and 63 above, and further in view of Advanced Elastomer Systems Product Page (web page at www.santoprene.com, dated 5/15/2002).

Martineau teaches the method of claims 39-40, 42, 48, 53, and 63, as discussed above.

Martineau does not teach a durometer in the range of 40 Shore D to 50 Shore D, as required by claims 43 and 50.

Advanced Elastomer Systems Product Page teaches that the thermoplastic elastomer Santoprene® has durometer to 50 Shore D.

Martineau and Advanced Elastomer Systems are combinable because they are concerned with a similar technical field, namely, flexible moldings. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Martineau the elasticity property as taught by Advanced Elastomer Systems. The motivation to do so would have been to create a flexible object. See lines 13-27 in column 1 of Martineau.

Claims 44-45, 47, 57-58, and 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bishay et al (U.S. Patent Application Publication 2001/0021869), and further in view of Martineau.

Bishay et al, hereafter "Bishay", teaches a method of forming a flexible support member reading on claim 44. Bishay teaches molding a portion of the support member including a cable channel and first and second engagement members for couplings, laying a bundled link and individual links in the channel, and attaching a second portion in an overmold process. See paragraph [0103] and Fig. 23.

Bishay teaches a cylindrical shape for an engagement member, as required by claim 45. See paragraph [0109] and Fig. 26.

Bishay teaches link portions spanning to first and second engagement members, as required by claims 57 and 58. This is illustrated by reference character 250 in Fig. 23.

Bishay teaches a deformable member as a cable harness, as required by claim 61. See paragraph [0103].

Bishay teaches the use of Santopene® in paragraph [0103]. As noted above in the discussion of claims 43 and 50, Santopene® meets the durometer requirements of claim 47.

Bishay does not teach forming with an uncured material and subsequently curing, as required by claim 44. Bishay further does not teach that the first and second portions are formed of elastomers having the same durometer, as required by claim 62. Bishay still further does not teach parallel surfaces between first and second portions, as required by claim 60.

Martineau does teach vulcanizing in stages. See lines 17-49 in column 2. Martineau further teaches that the elastomer for both portions is the same. See lines 17-49 in column 2. Martineau still further teaches parallel surfaces in both molding portions. See Fig. 4a.

Bishay and Martineau are combinable because they are concerned with a similar technical field, namely, two-step molding of elastomers. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Bishay the undervulcanized intermediate stage as taught by Martineau. The motivation

to do so would have been to create a bond at the juncture plane of the two portions.

See lines 40-45 in column 2 of Martineau.

Claims 54-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martineau as applied to claims 39-40, 42, 48, 53, 60, and 63 above, and further in view of Rowley (U.S. Patent 6,662,820).

Martineau teaches the method of claims 39-40, 42, 48, 53, 60, and 63, as discussed above.

Martineau does not teach first and second portions with viscoelastic materials different from each other, as required by claim 54, or the same, as required by claim 55. Martineau further does not teach that the two materials have the same durometer, as required by claim 56.

Rowley teaches, that in the overmolding of two components to form a plumbing connector with a nose cone, one material can be softer than the other, or otherwise be the same. See lines 4-44 in column 4.

Martineau and Rowley are combinable because they are concerned with a similar technical field, namely, overmolding to form bonded components. One of ordinary skill in the art at the time of invention would have found it obvious to include in the method of Martineau the material disparities as taught by Rowley. The motivation to do so would have been to match flexibility needs to different interfaces. See lines 8-19 in column 4 of Rowley.

Claims 52 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martineau as applied to claims 39-40, 42, 48, 53, and 63 above, and further in view of Bishay.

Martineau teaches the method of claims 39-40, 42, 48, 53, 60, and 63, as discussed above.

Martineau does not teach that the flexible member is an electrically conductive wire, as required by claims 52 and 64.

Bishay does teach that the flexible member is a cable harness. See paragraph [0103].

Martineau and Bishay are combinable because they are concerned with a similar technical field, namely, two-step molding of elastomers. One of ordinary skill in the art at the time of the invention would have found it obvious to include in the method of Martineau the choice of wire as flexible member, as taught by Bishay. The motivation to do so would have been to seek a barrier with better insulating properties. See line 34-38 in column 2 of Martineau.

Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bishay in view of Martineau as applied to claims 44-45, 47, 57-58, and 60-62, and further in view of Rowley.

Bishay/Martineau teaches the method of claims 44-45, 47, 57-58, and 60-62, as discussed above.

Bishay/Martineau does not teach removing a first portion from a first mold assembly to position in a second mold assembly, as required by claim 59.

Rowley teaches placing a tube, as a previously molded object, in a second mold to overmold a fitting. See lines 19-33 in column 7.

Bishay/Martineau and Rowley are combinable because they are concerned with a similar technical field, namely, overmolding to form bonded components. One of ordinary skill in the art at the time of invention would have found it obvious to include in the method of Bishay/Martineau the transfer technique taught by Rowley. The motivation to do so would have been to avoid the expense of a progressive mold.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following document is cited to further show the state of the art with regard to overmolding:

U.S. Patent 6,662,820 to Dunkle


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Lambelet whose telephone number is 571-272-1713. The examiner can normally be reached on 8 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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11/20/2006


CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER
11/21/06